Amended CLAIMS for International application PCT/EP03/06901

1. Method for fractional crystallisation of an at most partially solidified molten metal, characterised in that a layer of at most partially solidified molten metal to be crystallised is cooled by a layer of cooling liquid which is present above and/or below the layer of at most partially solidified molten metal so as to crystallise the molten metal, which layer of cooling liquid contacts the layer of at most partially solidified molten metal.

2. Method according to claim 1, in which the layer of cooling liquid is only present below the layer of at most partially solidified molten metal.

3. Method according to claim 1 or 2, in which the layer of cooling liquid is cooled at at least one spot near the layer of at most partially solidified molten metal.

4. Method according to any one of the preceding claims, in which the cooling liquid is transported relative to the layer of at most partially solidified molten metal.

5. Method according to claim 4, in which the cooling liquid is recycled and preferably cooled.

6. Method according to any one of the preceding claims, in which the molten metal is transported relative to the layer of cooling liquid.

7. Method according to any one of the preceding claims, in which the cooling liquid that is used is a molten salt.

8. Method according to any one of the preceding claims, in which the layer of at most partially solidified molten metal is divided into compartments that communicate near the layer of cooling liquid.

9. Method according to any one of the preceding claims, in which the at most partially solidified molten metal is stirred.

10. Method according to claim 9 in combination with claim 8, in which the at most partially solidified molten metal is stirred in al least one compartment, preferably in all compartments.

11. Method according to any one of the preceding claims, in which at most partially solidified molten metal is added between both ends of the length of the layer of at most partially solidified molten metal, and refined metal is removed at one end and remaining molten metal is removed at the other end of the layer of metal.

12. Method according to any one of the preceding claims, in which the metal used is aluminium.

13. Method according any one of the preceding claims for removing Cu, Fe, Ga, Mg, Mn, B, Si, Sn, Zn or Ni from aluminium.